AMENDMENT TO THE CLAIMS

CLAIMS 1-20 (cancel)

CLAIM 21 (new)

21. In a mobile cellular switching network, a method of establishing a connection from a mobile station of an originating party to a station of a terminating party comprising the steps of:

signaling an identification of said station of said terminating party over a control channel between said mobile station of said originating party and a base station;

if a serving mobile switching center detects that a radio traffic channel between said mobile station and any base station is available, establishing a connection toward the identified station over said available channel;

if said serving mobile switching center detects that no radio traffic channel is available between said mobile station and any base station, disconnecting said control channel and going on-hook at said mobile station while the network waits for a radio traffic channel between said mobile station and any base station to become available;

when a radio traffic channel becomes available, calling said mobile station back; and

when the mobile station goes off-hook, establishing a connection toward the identified station using said available radio traffic channel.

CLAIM 22 (new)

22. The method of claim 21, wherein prior to said mobile station going on-hook, said serving mobile switching center determines whether an expected wait time for an available channel exceeds a first threshold; and

disconnecting said control channel only for those cases in which the expected wait time exceeds said first threshold.

CLAIM 23 (new)

23. The method of claim 21, further comprising the steps of:

prior to calling said mobile station back, testing whether the identified station is busy; and

if the identified station is busy, avoiding calling said mobile station back.

CLAIM 24 (new)

24. The method of claim 21, further comprising the steps of:

prior to calling said mobile station back, testing whether the identified station is busy; and

if the identified station is busy, returning a busy signal to the mobile station.

CLAIM 25 (new)

25. The method of claim 21, wherein prior to disconnecting said control channel, the mobile switching center determines whether an expected wait time for an available radio traffic channel exceeds a first threshold;

if the expected wait time for an available radio traffic channel exceeds said first threshold, offering to call back said mobile station;

if the expected wait time does not exceed said first threshold, waiting until the lapse of time of a second threshold, said second threshold smaller than said first threshold;

if a radio traffic channel becomes available before a lapse of time of said second threshold, when the mobile station goes off-hook, establishing a connection toward the identified station using said available radio traffic channel; and

if no channel becomes available during the lapse of time of the second threshold, offering to call back said mobile station.

CLAIM 26 (new)

26. The method of claim 21, wherein the step of calling back the mobile station comprises the step of:

calling back the mobile station using a distinctive ringing signal.

CLAIM 27 (new)

27. The method of claim 21, wherein a service of calling back said mobile station is offered only to mobile stations subscribing to said service.

CLAIM 28 (new)

28. The method of claim 27, wherein mobile station subscribers to said service are provided with a default treatment;

wherein the default treatment is one of automatic call-back service and no call-back service.

CLAIM 29 (new)

29. The method of claim 21, wherein if said mobile station originates a new call while waiting for a call back, the call back request is canceled.

CLAIM 30 (new)

30. The method of claim 21, further comprising the steps of:

retaining a call record comprising said identification of said station of said terminating party during an interval between a time that the mobile station goes on-hook and a time when the mobile station is called back.

CLAIM 31 (new)

31. In a mobile cellular switching network, apparatus for establishing a connection from a mobile station of an originating party to a station of a terminating party, comprising:

means for signaling an identification of said station of said terminating party over a control channel between said mobile station of said originating party and a base station;

means, responsive to a serving mobile switching center detecting that a radio traffic channel between said mobile station and any base station is available, for establishing a connection toward the identified station over the available channel;

means, responsive to said serving mobile switching center detecting that no radio traffic channel is available between said mobile station and any base station, for disconnecting said control channel while said mobile station goes on-hook and while the network waits for a radio traffic channel between said mobile station and any base station to become available;

means for calling said mobile station back when a radio traffic channel between said mobile station and any base station becomes available; and

means, responsive to the mobile station going off-hook, for establishing a connection toward the identified station using said available radio traffic channel.

CLAIM 32 (new)

32. The apparatus of claim 31 wherein:

prior to disconnecting said control channel, said mobile switching system determining whether an expected wait time for an available channel exceeds a first threshold; and

said mobile switching center calling back said mobile station only for those cases in which the expected wait time exceeds said first threshold.

CLAIM 33 (new)

33. The apparatus of claim 31, wherein said means for calling back said mobile station comprises:

means for determining whether said station of said terminating party is busy prior to calling back said mobile station; and

means, responsive to a determination that said station of said terminating party is busy, for avoiding an attempt to establish a connection toward said identified station.

CLAIM 34 (new)

34. The apparatus of claim 31, wherein said means for calling back said mobile station comprises:

means for determining whether said station of said terminating party is busy prior to calling back said mobile station; and

means, responsive to a determination that said station of said terminating party is busy, for returning a busy signal to the mobile station if said station of said terminating party is busy.

CLAIM 35 (new)

35. The apparatus of claim 31:

wherein prior to disconnecting said control channel, said mobile switching center determines whether an expected wait time for an available radio traffic channel exceeds a first threshold;

if the expected wait time for an available radio traffic channel exceeds said first threshold, the mobile switching center offers to call back the mobile station;

if the expected wait time does not exceed a first threshold, the mobile switching center waits until the elapse of time of a second threshold, said second threshold smaller than said first threshold;

if a radio traffic channel becomes available before an elapse of time of said second threshold, when the mobile station goes off-hook, establishing a connection toward the identified station using said available radio traffic channel; and

if no radio traffic channel becomes available prior to an elapse of time of the second threshold, the mobile switching center offers to call back the mobile station.

CLAIM 36 (new)

36. The apparatus of claim 31, wherein said means for calling back said mobile station comprises:

means for calling back the mobile station using a distinctive ringing signal.

CLAIM 37 (new)

37. The apparatus of claim 31, wherein the means for calling back the mobile station is activated only for mobile stations subscribing to a call-back service.

CLAIM 38 (new)

38. The apparatus of claim 37, wherein mobile stations subscribing to said call-back service are provided with a default treatment;

wherein the default treatment is one of automatic call-back service and no call-back service.

CLAIM 39 (new)

39. The apparatus of claim 31, wherein if the mobile station originates a new call while waiting for a call back, the call back request is canceled.

CLAIM 40 (new)

40. The apparatus of claim 31, wherein said mobile switching center retains a call record during an interval between a time that the mobile station goes on-hook and a time when the mobile station is called back;

wherein said call record comprises a calling and a called number.